



SEQUENCE LISTING

<110> Fu, C. Alan

<120> NOVEL GERMINAL CENTER KINASE CELL CYCLE PROTEINS, COMPOSITIONS AND METHODS OF USE

<130> A-68344-3/RMS/DHR

<140> US 09/645,456

<141> 2000-08-24

<150> US 09/425,324

<151> 1999-10-21

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ggacccagac	taggatctca	acccatcaga	gcaagcaacc	ctgatctccg	gagaactgag	1980
cccatcttgg	agagccctt	gcagaggacc	agcagtgca	gttcctccag	ctccagcacc	2040
cctagctccc	agcccagctc	ccaaggaggc	tcccagcctg	gatcacaagc	aggatccagt	2100
gaacgcacca	gagttcgagc	caacagtaag	tcagaaggat	cacctgtgct	tccccatgag	2160
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atgatttagag agacgtctgg agagaagaag cgatctggcc acagtacag caatggctt	2580
gctggccaca tcaacctccc tgacctggtg cagcagagcc attctccagc tggaaccccg	2640
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ttaaagtttc tatgtgaaag aaatgataag gtatttttt catccgtgcg atctggagga	3840
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<210> 8
 <211> 3807
 <212> DNA
 <213> Artificial Sequence

<220>

<223> synthetic

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agaaaagaatt	ctcctggaa	tggtagtgct	ctgggaccct	gactaggatc	tcaacccatc	1860
agagcaagca	accctgatct	ccggagaact	gagccatct	tggagagccc	cttgcagagg	1920
accagcagtgc	gcagttcctc	cagctccagc	acccttagct	cccagccag	ctcccaagga	1980
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caaggctgga	tcactgttgg	ggacttggaa	ggctgtatac	attataaagt	tgttaaatat	3180
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<210> 9
<211> 1332
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 9

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Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
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Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys
260 265 270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Thr Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu
305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg

340

345

350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Arg Ala Glu His Glu Gln Glu Tyr Lys Arg
435 440 445

Lys Gln Leu Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu
450 455 460

Lys Gln Glu Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu
465 470 475 480

Gln Arg Pro Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met
485 490 495

Ser Pro Ser Glu Lys Pro Ala Trp Ala Lys Glu Val Glu Glu Arg Ser
500 505 510

Arg Leu Asn Arg Gln Ser Ser Pro Ala Met Pro His Lys Val Ala Asn
515 520 525

Arg Ile Ser Asp Pro Asn Leu Pro Pro Arg Ser Glu Ser Phe Ser Ile
530 535 540

Ser Gly Val Gln Pro Ala Arg Thr Pro Pro Met Leu Arg Pro Val Asp
545 550 555 560

Pro Gln Ile Pro His Leu Val Ala Val Lys Ser Gln Gly Pro Ala Leu
565 570 575

Thr Ala Ser Gln Ser Val His Glu Gln Pro Thr Lys Gly Leu Ser Gly
580 585 590

Phe Gln Glu Ala Leu Asn Val Thr Ser His Arg Val Glu Met Pro Arg
595 600 605

Gln Asn Ser Asp Pro Thr Ser Glu Asn Pro Pro Leu Pro Thr Arg Ile
610 615 620

Glu Lys Phe Asp Arg Ser Ser Trp Leu Arg Gln Glu Glu Asp Ile Pro
625 630 635 640

Pro Lys Val Pro Gln Arg Thr Thr Ser Ile Ser Pro Ala Leu Ala Arg
645 650 655

Lys Asn Ser Pro Gly Asn Gly Ser Ala Leu Gly Pro Arg Leu Gly Ser
660 665 670

Gln Pro Ile Arg Ala Ser Asn Pro Asp Leu Arg Arg Thr Glu Pro Ile
675 680 685

Leu Glu Ser Pro Leu Gln Arg Thr Ser Ser Gly Ser Ser Ser Ser Ser
690 695 700

Ser Thr Pro Ser Ser Gln Pro Ser Ser Gln Gly Gly Ser Gln Pro Gly
705 710 715 720

Ser Gln Ala Gly Ser Ser Glu Arg Thr Arg Val Arg Ala Asn Ser Lys
725 730 735

Ser Glu Gly Ser Pro Val Leu Pro His Glu Pro Ala Lys Val Lys Pro
740 745 750

Glu Glu Ser Arg Asp Ile Thr Arg Pro Ser Arg Pro Ala Ser Tyr Lys
755 760 765

Lys Ala Ile Asp Glu Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg Glu
770 775 780

Leu Arg Ile Glu Glu Thr Asn Arg Pro Met Lys Lys Val Thr Asp Tyr
785 790 795 800

Ser Ser Ser Ser Glu Glu Ser Glu Ser Ser Glu Glu Glu Glu Glu Asp
805 810 815

Gly Glu Ser Glu Thr His Asp Gly Thr Val Ala Val Ser Asp Ile Pro
820 825 830

Arg Leu Ile Pro Thr Gly Ala Pro Gly Ser Asn Glu Gln Tyr Asn Val
835 840 845

Gly Met Val Gly Thr His Gly Leu Glu Thr Ser His Ala Asp Ser Phe
850 855 860

Ser Gly Ser Ile Ser Arg Glu Gly Thr Leu Met Ile Arg Glu Thr Ser
865 870 875 880

Gly Glu Lys Lys Arg Ser Gly His Ser Asp Ser Asn Gly Phe Ala Gly
885 890 895

His Ile Asn Leu Pro Asp Leu Val Gln Gln Ser His Ser Pro Ala Gly
900 905 910

Thr Pro Thr Glu Gly Leu Gly Arg Val Ser Thr His Ser Gln Glu Met
915 920 925

Asp Ser Gly Thr Glu Tyr Gly Met Gly Ser Ser Thr Lys Ala Ser Phe
930 935 940

Thr Pro Phe Val Asp Pro Arg Val Tyr Gln Thr Ser Pro Thr Asp Glu
945 950 955 960

Asp Glu Glu Asp Glu Glu Ser Ser Ala Ala Ala Leu Phe Thr Ser Glu
965 970 975

Leu Leu Arg Gln Glu Gln Ala Lys Leu Asn Glu Ala Arg Lys Ile Ser
980 985 990

Val Val Asn Val Asn Pro Thr Asn Ile Arg Pro His Ser Asp Thr Pro
995 1000 1005

Glu Ile Arg Lys Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu Cys
1010 1015 1020

Ala Ala Leu Trp Gly Val Asn Leu Leu Val Gly Thr Glu Asn Gly
1025 1030 1035

Leu Met Leu Leu Asp Arg Ser Gly Gln Gly Lys Val Tyr Asn Leu
1040 1045 1050

Ile Asn Arg Arg Arg Phe Gln Gln Met Asp Val Leu Glu Gly Leu
1055 1060 1065

Asn Val Leu Val Thr Ile Ser Gly Lys Lys Asn Lys Leu Arg Val
1070 1075 1080

Tyr Tyr Leu Ser Trp Leu Arg Asn Arg Ile Leu His Asn Asp Pro
1085 1090 1095

Glu Val Glu Lys Lys Gln Gly Trp Ile Thr Val Gly Asp Leu Glu
1100 1105 1110

Gly Cys Ile His Tyr Lys Val Val Lys Tyr Glu Arg Ile Lys Phe
1115 1120 1125

Leu Val Ile Ala Leu Lys Asn Ala Val Glu Ile Tyr Ala Trp Ala
1130 1135 1140

Pro Lys Pro Tyr His Lys Phe Met Ala Phe Lys Ser Phe Ala Asp
1145 1150 1155

Leu Gln His Lys Pro Leu Leu Val Asp Leu Thr Val Glu Glu Gly
1160 1165 1170

Gln Arg Leu Lys Val Ile Phe Gly Ser His Thr Gly Phe His Val
1175 1180 1185

Ile Asp Val Asp Ser Gly Asn Ser Tyr Asp Ile Tyr Ile Pro Ser
1190 1195 1200

His Ile Gln Gly Asn Ile Thr Pro His Ala Ile Val Ile Leu Pro
1205 1210 1215

Lys Thr Asp Gly Met Glu Met Leu Val Cys Tyr Glu Asp Glu Gly
1220 1225 1230

Val Tyr Val Asn Thr Tyr Gly Arg Ile Thr Lys Asp Val Val Leu

1235

1240

1245

Gln Trp Gly Glu Met Pro Thr Ser Val Ala Tyr Ile His Ser Asn
1250 1255 1260

Gln Ile Met Gly Trp Gly Glu Lys Ala Ile Glu Ile Arg Ser Val
1265 1270 1275

Glu Thr Gly His Leu Asp Gly Val Phe Met His Lys Arg Ala Gln
1280 1285 1290

Arg Leu Lys Phe Leu Cys Glu Arg Asn Asp Lys Val Phe Phe Ala
1295 1300 1305

Ser Val Arg Ser Gly Gly Ser Ser Gln Val Phe Phe Met Thr Leu
1310 1315 1320

Asn Arg Asn Ser Met Met Asn Trp Glx
1325 1330

<210> 10

<211> 1306

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 10

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20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys
260 265 270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Thr Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu

305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Arg Ala Glu His Glu Gln Glu Tyr Ile Arg
435 440 445

Arg Gln Leu Glu Glu Gln Arg Gln Leu Glu Ile Leu Gln Gln Gln
450 455 460

Leu Leu His Glu Gln Ala Leu Leu Leu Glu Tyr Lys Arg Lys Gln Leu
465 470 475 480

Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu Lys Gln Glu
485 490 495

Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu Gln Arg Pro
500 505 510

Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met Ser Pro Ser
515 520 525

Glu Lys Pro Ala Trp Ala Lys Glu Ile Pro His Leu Val Ala Val Lys
530 535 540

Ser Gln Gly Pro Ala Leu Thr Ala Ser Gln Ser Val His Glu Gln Pro
545 550 555 560

Thr Lys Gly Leu Ser Gly Phe Gln Glu Ala Leu Asn Val Thr Ser His
565 570 575

Arg Val Glu Met Pro Arg Gln Asn Ser Asp Pro Thr Ser Glu Asn Pro
580 585 590

Pro Leu Pro Thr Arg Ile Glu Lys Phe Asp Arg Ser Ser Trp Leu Arg
595 600 605

Gln Glu Glu Asp Ile Pro Pro Lys Val Pro Gln Arg Thr Thr Ser Ile
610 615 620

Ser Pro Ala Leu Ala Arg Lys Asn Ser Pro Gly Asn Gly Ser Ala Leu
625 630 635 640

Gly Pro Arg Leu Gly Ser Gln Pro Ile Arg Ala Ser Asn Pro Asp Leu
645 650 655

Arg Arg Thr Glu Pro Ile Leu Glu Ser Pro Leu Gln Arg Thr Ser Ser
660 665 670

Gly Ser Ser Ser Ser Ser Ser Thr Pro Ser Ser Gln Pro Ser Ser Gln
675 680 685

Gly Gly Ser Gln Pro Gly Ser Gln Ala Gly Ser Ser Glu Arg Thr Arg
690 695 700

Val Arg Ala Asn Ser Lys Ser Glu Gly Ser Pro Val Leu Pro His Glu
705 710 715 720

Pro Ala Lys Val Lys Pro Glu Glu Ser Arg Asp Ile Thr Arg Pro Ser
725 730 735

Arg Pro Ala Ser Tyr Lys Lys Ala Ile Asp Glu Asp Leu Thr Ala Leu
740 745 750

Ala Lys Glu Leu Arg Glu Leu Arg Ile Glu Glu Thr Asn Arg Pro Met
755 760 765

Lys Lys Val Thr Asp Tyr Ser Ser Ser Ser Glu Glu Ser Glu Ser Ser
770 775 780

Glu Glu Glu Glu Glu Asp Gly Glu Ser Glu Thr His Asp Gly Thr Val
785 790 795 800

Ala Val Ser Asp Ile Pro Arg Leu Ile Pro Thr Gly Ala Pro Gly Ser
805 810 815

Asn Glu Gln Tyr Asn Val Gly Met Val Gly Thr His Gly Leu Glu Thr
820 825 830

Ser His Ala Asp Ser Phe Ser Gly Ser Ile Ser Arg Glu Gly Thr Leu
835 840 845

Met Ile Arg Glu Thr Ser Gly Glu Lys Lys Arg Ser Gly His Ser Asp
850 855 860

Ser Asn Gly Phe Ala Gly His Ile Asn Leu Pro Asp Leu Val Gln Gln
865 870 875 880

Ser His Ser Pro Ala Gly Thr Pro Thr Glu Gly Leu Gly Arg Val Ser
885 890 895

Thr His Ser Gln Glu Met Asp Ser Gly Thr Glu Tyr Gly Met Gly Ser
900 905 910

Ser Thr Lys Ala Ser Phe Thr Pro Phe Val Asp Pro Arg Val Tyr Gln
915 920 925

Thr Ser Pro Thr Asp Glu Asp Glu Glu Asp Glu Ser Ser Ala Ala
930 935 940

Ala Leu Phe Thr Ser Glu Leu Leu Arg Gln Glu Gln Ala Lys Leu Asn
945 950 955 960

Glu Ala Arg Lys Ile Ser Val Val Asn Val Asn Pro Thr Asn Ile Arg
965 970 975

Pro His Ser Asp Thr Pro Glu Ile Arg Lys Tyr Lys Lys Arg Phe Asn
980 985 990

Ser Glu Ile Leu Cys Ala Ala Leu Trp Gly Val Asn Leu Leu Val Gly
995 1000 1005

Thr Glu Asn Gly Leu Met Leu Leu Asp Arg Ser Gly Gln Gly Lys
1010 1015 1020

Val Tyr Asn Leu Ile Asn Arg Arg Arg Phe Gln Gln Met Asp Val
1025 1030 1035

Leu Glu Gly Leu Asn Val Leu Val Thr Ile Ser Gly Lys Lys Asn
1040 1045 1050

Lys Leu Arg Val Tyr Tyr Leu Ser Trp Leu Arg Asn Arg Ile Leu
1055 1060 1065

His Asn Asp Pro Glu Val Glu Lys Lys Gln Gly Trp Ile Thr Val
1070 1075 1080

Gly Asp Leu Glu Gly Cys Ile His Tyr Lys Val Val Lys Tyr Glu
1085 1090 1095

Arg Ile Lys Phe Leu Val Ile Ala Leu Lys Asn Ala Val Glu Ile
1100 1105 1110

Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe Met Ala Phe Lys
1115 1120 1125

Ser Phe Ala Asp Leu Gln His Lys Pro Leu Leu Val Asp Leu Thr
1130 1135 1140

Val Glu Glu Gly Gln Arg Leu Lys Val Ile Phe Gly Ser His Thr
1145 1150 1155

Gly Phe His Val Ile Asp Val Asp Ser Gly Asn Ser Tyr Asp Ile
1160 1165 1170

Tyr Ile Pro Ser His Ile Gln Gly Asn Ile Thr Pro His Ala Ile
1175 1180 1185

Val Ile Leu Pro Lys Thr Asp Gly Met Glu Met Leu Val Cys Tyr
1190 1195 1200

Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr Gly Arg Ile Thr Lys

1205

1210

1215

Asp Val Val Leu Gln Trp Gly Glu Met Pro Thr Ser Val Ala Tyr
1220 1225 1230

Ile His Ser Asn Gln Ile Met Gly Trp Gly Glu Lys Ala Ile Glu
1235 1240 1245

Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val Phe Met His
1250 1255 1260

Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg Asn Asp Lys
1265 1270 1275

Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln Val Phe
1280 1285 1290

Phe Met Thr Leu Asn Arg Asn Ser Met Met Asn Trp Glx
1295 1300 1305

<210> 11

<211> 1353

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 11

Met Ala Ser Asp Ser Pro Ala Arg Ser Leu Asp Glu Ile Asp Leu Ser
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Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys
260 265 270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Thr Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu

305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Ala Glu His Glu Gln Glu Tyr Ile Arg
435 440 445

Arg Gln Leu Glu Glu Gln Arg Gln Leu Glu Ile Leu Gln Gln Gln
450 455 460

Leu Leu His Glu Gln Ala Leu Leu Leu Glu Tyr Lys Arg Lys Gln Leu
465 470 475 480

Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu Lys Gln Glu
485 490 495

Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu Gln Arg Pro
500 505 510

Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met Ser Pro Ser
515 520 525

Glu Lys Pro Ala Trp Ala Lys Glu Val Glu Glu Arg Ser Arg Leu Asn
530 535 540

Arg Gln Ser Ser Pro Ala Met Pro His Lys Val Ala Asn Arg Ile Ser
545 550 555 560

Asp Pro Asn Leu Pro Pro Arg Ser Glu Ser Phe Ser Ile Ser Gly Val
565 570 575

Gln Pro Ala Arg Thr Pro Pro Met Leu Arg Pro Val Asp Pro Gln Ile
580 585 590

Pro His Leu Val Ala Val Lys Ser Gln Gly Pro Ala Leu Thr Ala Ser
595 600 605

Gln Ser Val His Glu Gln Pro Thr Lys Gly Leu Ser Gly Phe Gln Glu
610 615 620

Ala Leu Asn Val Thr Ser His Arg Val Glu Met Pro Arg Gln Asn Ser
625 630 635 640

Asp Pro Thr Ser Glu Asn Pro Pro Leu Pro Thr Arg Ile Glu Lys Phe
645 650 655

Asp Arg Ser Ser Trp Leu Arg Gln Glu Asp Ile Pro Pro Lys Val
660 665 670

Pro Gln Arg Thr Thr Ser Ile Ser Pro Ala Leu Ala Arg Lys Asn Ser
675 680 685

Pro Gly Asn Gly Ser Ala Leu Gly Pro Arg Leu Gly Ser Gln Pro Ile
690 695 700

Arg Ala Ser Asn Pro Asp Leu Arg Arg Thr Glu Pro Ile Leu Glu Ser
705 710 715 720

Pro Leu Gln Arg Thr Ser Ser Gly Ser Ser Ser Ser Ser Thr Pro
725 730 735

Ser Ser Gln Pro Ser Ser Gln Gly Gly Ser Gln Pro Gly Ser Gln Ala
740 745 750

Gly Ser Ser Glu Arg Thr Arg Val Arg Ala Asn Ser Lys Ser Glu Gly
755 760 765

Ser Pro Val Leu Pro His Glu Pro Ala Lys Val Lys Pro Glu Glu Ser
770 775 780

Arg Asp Ile Thr Arg Pro Ser Arg Pro Ala Asp Leu Thr Ala Leu Ala
785 790 795 800

Lys Glu Leu Arg Glu Leu Arg Ile Glu Glu Thr Asn Arg Pro Met Lys
805 810 815

Lys Val Thr Asp Tyr Ser Ser Ser Glu Glu Ser Glu Ser Ser Glu
820 825 830

Glu Glu Glu Glu Asp Gly Glu Ser Glu Thr His Asp Gly Thr Val Ala
835 840 845

Val Ser Asp Ile Pro Arg Leu Ile Pro Thr Gly Ala Pro Gly Ser Asn
850 855 860

Glu Gln Tyr Asn Val Gly Met Val Gly Thr His Gly Leu Glu Thr Ser
865 870 875 880

His Ala Asp Ser Phe Ser Gly Ser Ile Ser Arg Glu Gly Thr Leu Met
885 890 895

Ile Arg Glu Thr Ser Gly Glu Lys Lys Arg Ser Gly His Ser Asp Ser
900 905 910

Asn Gly Phe Ala Gly His Ile Asn Leu Pro Asp Leu Val Gln Gln Ser
915 920 925

His Ser Pro Ala Gly Thr Pro Thr Glu Gly Leu Gly Arg Val Ser Thr
930 935 940

His Ser Gln Glu Met Asp Ser Gly Thr Glu Tyr Gly Met Gly Ser Ser
945 950 955 960

Thr Lys Ala Ser Phe Thr Pro Phe Val Asp Pro Arg Val Tyr Gln Thr
965 970 975

Ser Pro Thr Asp Glu Asp Glu Asp Glu Glu Ser Ser Ala Ala Ala
980 985 990

Leu Phe Thr Ser Glu Leu Leu Arg Gln Glu Gln Ala Lys Leu Asn Glu
995 1000 1005

Ala Arg Lys Ile Ser Val Val Asn Val Asn Pro Thr Asn Ile Arg
1010 1015 1020

Pro His Ser Asp Thr Pro Glu Ile Arg Lys Tyr Lys Lys Arg Phe
1025 1030 1035

Asn Ser Glu Ile Leu Cys Ala Ala Leu Trp Gly Val Asn Leu Leu
1040 1045 1050

Val Gly Thr Glu Asn Gly Leu Met Leu Leu Asp Arg Ser Gly Gln
1055 1060 1065

Gly Lys Val Tyr Asn Leu Ile Asn Arg Arg Arg Phe Gln Gln Met
1070 1075 1080

Asp Val Leu Glu Gly Leu Asn Val Leu Val Thr Ile Ser Gly Lys
1085 1090 1095

Lys Asn Lys Leu Arg Val Tyr Tyr Leu Ser Trp Leu Arg Asn Arg
1100 1105 1110

Ile Leu His Asn Asp Pro Glu Val Glu Lys Lys Gln Gly Trp Ile
1115 1120 1125

Thr Val Gly Asp Leu Glu Gly Cys Ile His Tyr Lys Val Val Lys
1130 1135 1140

Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala Leu Lys Asn Ala Val
1145 1150 1155

Glu Ile Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe Met Ala
1160 1165 1170

Phe Lys Ser Phe Ala Asp Leu Gln His Lys Pro Leu Leu Val Asp
1175 1180 1185

Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile Phe Gly Ser
1190 1195 1200

His Thr Gly Phe His Val Ile Asp Val Asp Ser Gly Asn Ser Tyr

1205

1210

1215

Asp Ile Tyr Ile Pro Ser His Ile Gln Gly Asn Ile Thr Pro His
1220 1225 1230

Ala Ile Val Ile Leu Pro Lys Thr Asp Gly Met Glu Met Leu Val
1235 1240 1245

Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr Gly Arg Ile
1250 1255 1260

Thr Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro Thr Ser Val
1265 1270 1275

Ala Tyr Ile His Ser Asn Gln Ile Met Gly Trp Gly Glu Lys Ala
1280 1285 1290

Ile Glu Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val Phe
1295 1300 1305

Met His Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg Asn
1310 1315 1320

Asp Lys Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln
1325 1330 1335

Val Phe Phe Met Thr Leu Asn Arg Asn Ser Met Met Asn Trp Glx
1340 1345 1350

<210> 12
<211> 1277
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 12

Met Ala Ser Asp Ser Pro Ala Arg Ser Leu Asp Glu Ile Asp Leu Ser
1 5 10 15

Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys

260

265

270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Thr Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu
305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Arg Ala Glu His Glu Gln Glu Tyr Lys Arg
435 440 445

Lys Gln Leu Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu
450 455 460

Lys Gln Glu Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu
465 470 475 480

Gln Arg Pro Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met
485 490 495

Ser Pro Ser Glu Lys Pro Ala Trp Ala Lys Glu Ile Pro His Leu Val
500 505 510

Ala Val Lys Ser Gln Gly Pro Ala Leu Thr Ala Ser Gln Ser Val His
515 520 525

Glu Gln Pro Thr Lys Gly Leu Ser Gly Phe Gln Glu Ala Leu Asn Val
530 535 540

Thr Ser His Arg Val Glu Met Pro Arg Gln Asn Ser Asp Pro Thr Ser
545 550 555 560

Glu Asn Pro Pro Leu Pro Thr Arg Ile Glu Lys Phe Asp Arg Ser Ser
565 570 575

Trp Leu Arg Gln Glu Glu Asp Ile Pro Pro Lys Val Pro Gln Arg Thr
580 585 590

Thr Ser Ile Ser Pro Ala Leu Ala Arg Lys Asn Ser Pro Gly Asn Gly
595 600 605

Ser Ala Leu Gly Pro Arg Leu Gly Ser Gln Pro Ile Arg Ala Ser Asn
610 615 620

Pro Asp Leu Arg Arg Thr Glu Pro Ile Leu Glu Ser Pro Leu Gln Arg
625 630 635 640

Thr Ser Ser Gly Ser Ser Ser Ser Ser Thr Pro Ser Ser Gln Pro
645 650 655

Ser Ser Gln Gly Gly Ser Gln Pro Gly Ser Gln Ala Gly Ser Ser Glu
660 665 670

Arg Thr Arg Val Arg Ala Asn Ser Lys Ser Glu Gly Ser Pro Val Leu
675 680 685

Pro His Glu Pro Ala Lys Val Lys Pro Glu Glu Ser Arg Asp Ile Thr
690 695 700

Arg Pro Ser Arg Pro Ala Ser Tyr Lys Lys Ala Ile Asp Glu Asp Leu
705 710 715 720

Thr Ala Leu Ala Lys Glu Leu Arg Glu Leu Arg Ile Glu Glu Thr Asn
725 730 735

Arg Pro Met Lys Lys Val Thr Asp Tyr Ser Ser Ser Ser Glu Glu Ser
740 745 750

Glu Ser Ser Glu Glu Glu Glu Asp Gly Glu Ser Glu Thr His Asp
755 760 765

Gly Thr Val Ala Val Ser Asp Ile Pro Arg Leu Ile Pro Thr Gly Ala
770 775 780

Pro Gly Ser Asn Glu Gln Tyr Asn Val Gly Met Val Gly Thr His Gly
785 790 795 800

Leu Glu Thr Ser His Ala Asp Ser Phe Ser Gly Ser Ile Ser Arg Glu
805 810 815

Gly Thr Leu Met Ile Arg Glu Thr Ser Gly Glu Lys Lys Arg Ser Gly
820 825 830

His Ser Asp Ser Asn Gly Phe Ala Gly His Ile Asn Leu Pro Asp Leu
835 840 845

Val Gln Gln Ser His Ser Pro Ala Gly Thr Pro Thr Glu Gly Leu Gly
850 855 860

Arg Val Ser Thr His Ser Gln Glu Met Asp Ser Gly Thr Glu Tyr Gly
865 870 875 880

Met Gly Ser Ser Thr Lys Ala Ser Phe Thr Pro Phe Val Asp Pro Arg
885 890 895

Val Tyr Gln Thr Ser Pro Thr Asp Glu Asp Glu Glu Asp Glu Glu Ser
900 905 910

Ser Ala Ala Ala Leu Phe Thr Ser Glu Leu Leu Arg Gln Glu Gln Ala
915 920 925

Lys Leu Asn Glu Ala Arg Lys Ile Ser Val Val Asn Val Asn Pro Thr
930 935 940

Asn Ile Arg Pro His Ser Asp Thr Pro Glu Ile Arg Lys Tyr Lys Lys
945 950 955 960

Arg Phe Asn Ser Glu Ile Leu Cys Ala Ala Leu Trp Gly Val Asn Leu
965 970 975

Leu Val Gly Thr Glu Asn Gly Leu Met Leu Leu Asp Arg Ser Gly Gln
980 985 990

Gly Lys Val Tyr Asn Leu Ile Asn Arg Arg Arg Phe Gln Gln Met Asp
995 1000 1005

Val Leu Glu Gly Leu Asn Val Leu Val Thr Ile Ser Gly Lys Lys
1010 1015 1020

Asn Lys Leu Arg Val Tyr Tyr Leu Ser Trp Leu Arg Asn Arg Ile
1025 1030 1035

Leu His Asn Asp Pro Glu Val Glu Lys Lys Gln Gly Trp Ile Thr
1040 1045 1050

Val Gly Asp Leu Glu Gly Cys Ile His Tyr Lys Val Val Lys Tyr
1055 1060 1065

Glu Arg Ile Lys Phe Leu Val Ile Ala Leu Lys Asn Ala Val Glu
1070 1075 1080

Ile Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe Met Ala Phe
1085 1090 1095

Lys Ser Phe Ala Asp Leu Gln His Lys Pro Leu Leu Val Asp Leu
1100 1105 1110

Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile Phe Gly Ser His
1115 1120 1125

Thr Gly Phe His Val Ile Asp Val Asp Ser Gly Asn Ser Tyr Asp
1130 1135 1140

Ile Tyr Ile Pro Ser His Ile Gln Gly Asn Ile Thr Pro His Ala
1145 1150 1155

Ile Val Ile Leu Pro Lys Thr Asp Gly Met Glu Met Leu Val Cys

1160

1165

1170

Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr Gly Arg Ile Thr
1175 1180 1185

Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro Thr Ser Val Ala
1190 1195 1200

Tyr Ile His Ser Asn Gln Ile Met Gly Trp Gly Glu Lys Ala Ile
1205 1210 1215

Glu Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val Phe Met
1220 1225 1230

His Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg Asn Asp
1235 1240 1245

Lys Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln Val
1250 1255 1260

Phe Phe Met Thr Leu Asn Arg Asn Ser Met Met Asn Trp Glx
1265 1270 1275

<210> 13
<211> 1324
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 13

Met Ala Ser Asp Ser Pro Ala Arg Ser Leu Asp Glu Ile Asp Leu Ser
1 5 10 15

Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys
260 265 270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp

290

295

300

His Ile Asp Arg Thr Lys Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu
305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Ala Glu His Glu Gln Glu Tyr Lys Arg
435 440 445

Lys Gln Leu Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu
450 455 460

Lys Gln Glu Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu
465 470 475 480

Gln Arg Pro Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met
485 490 495

Ser Pro Ser Glu Lys Pro Ala Trp Ala Lys Glu Val Glu Glu Arg Ser
500 505 510

Arg Leu Asn Arg Gln Ser Ser Pro Ala Met Pro His Lys Val Ala Asn
515 520 525

Arg Ile Ser Asp Pro Asn Leu Pro Pro Arg Ser Glu Ser Phe Ser Ile
530 535 540

Ser Gly Val Gln Pro Ala Arg Thr Pro Pro Met Leu Arg Pro Val Asp
545 550 555 560

Pro Gln Ile Pro His Leu Val Ala Val Lys Ser Gln Gly Pro Ala Leu
565 570 575

Thr Ala Ser Gln Ser Val His Glu Gln Pro Thr Lys Gly Leu Ser Gly
580 585 590

Phe Gln Glu Ala Leu Asn Val Thr Ser His Arg Val Glu Met Pro Arg
595 600 605

Gln Asn Ser Asp Pro Thr Ser Glu Asn Pro Pro Leu Pro Thr Arg Ile
610 615 620

Glu Lys Phe Asp Arg Ser Ser Trp Leu Arg Gln Glu Glu Asp Ile Pro
625 630 635 640

Pro Lys Val Pro Gln Arg Thr Thr Ser Ile Ser Pro Ala Leu Ala Arg
645 650 655

Lys Asn Ser Pro Gly Asn Gly Ser Ala Leu Gly Pro Arg Leu Gly Ser
660 665 670

Gln Pro Ile Arg Ala Ser Asn Pro Asp Leu Arg Arg Thr Glu Pro Ile
675 680 685

Leu Glu Ser Pro Leu Gln Arg Thr Ser Ser Gly Ser Ser Ser Ser Ser
690 695 700

Ser Thr Pro Ser Ser Gln Pro Ser Ser Gln Gly Gly Ser Gln Pro Gly
705 710 715 720

Ser Gln Ala Gly Ser Ser Glu Arg Thr Arg Val Arg Ala Asn Ser Lys
725 730 735

Ser Glu Gly Ser Pro Val Leu Pro His Glu Pro Ala Lys Val Lys Pro
740 745 750

Glu Glu Ser Arg Asp Ile Thr Arg Pro Ser Arg Pro Ala Asp Leu Thr
755 760 765

Ala Leu Ala Lys Glu Leu Arg Glu Leu Arg Ile Glu Glu Thr Asn Arg
770 775 780

Pro Met Lys Lys Val Thr Asp Tyr Ser Ser Ser Glu Glu Ser Glu
785 790 795 800

Ser Ser Glu Glu Glu Glu Asp Gly Glu Ser Glu Thr His Asp Gly
805 810 815

Thr Val Ala Val Ser Asp Ile Pro Arg Leu Ile Pro Thr Gly Ala Pro
820 825 830

Gly Ser Asn Glu Gln Tyr Asn Val Gly Met Val Gly Thr His Gly Leu
835 840 845

Glu Thr Ser His Ala Asp Ser Phe Ser Gly Ser Ile Ser Arg Glu Gly
850 855 860

Thr Leu Met Ile Arg Glu Thr Ser Gly Glu Lys Lys Arg Ser Gly His
865 870 875 880

Ser Asp Ser Asn Gly Phe Ala Gly His Ile Asn Leu Pro Asp Leu Val
885 890 895

Gln Gln Ser His Ser Pro Ala Gly Thr Pro Thr Glu Gly Leu Gly Arg
900 905 910

Val Ser Thr His Ser Gln Glu Met Asp Ser Gly Thr Glu Tyr Gly Met
915 920 925

Gly Ser Ser Thr Lys Ala Ser Phe Thr Pro Phe Val Asp Pro Arg Val
930 935 940

Tyr Gln Thr Ser Pro Thr Asp Glu Asp Glu Asp Glu Ser Ser
945 950 955 960

Ala Ala Ala Leu Phe Thr Ser Glu Leu Leu Arg Gln Glu Gln Ala Lys
965 970 975

Leu Asn Glu Ala Arg Lys Ile Ser Val Val Asn Val Asn Pro Thr Asn
980 985 990

Ile Arg Pro His Ser Asp Thr Pro Glu Ile Arg Lys Tyr Lys Lys Arg
995 1000 1005

Phe Asn Ser Glu Ile Leu Cys Ala Ala Leu Trp Gly Val Asn Leu
1010 1015 1020

Leu Val Gly Thr Glu Asn Gly Leu Met Leu Leu Asp Arg Ser Gly
1025 1030 1035

Gln Gly Lys Val Tyr Asn Leu Ile Asn Arg Arg Arg Phe Gln Gln
1040 1045 1050

Met Asp Val Leu Glu Gly Leu Asn Val Leu Val Thr Ile Ser Gly
1055 1060 1065

Lys Lys Asn Lys Leu Arg Val Tyr Tyr Leu Ser Trp Leu Arg Asn
1070 1075 1080

Arg Ile Leu His Asn Asp Pro Glu Val Glu Lys Lys Gln Gly Trp
1085 1090 1095

Ile Thr Val Gly Asp Leu Glu Gly Cys Ile His Tyr Lys Val Val
1100 1105 1110

Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala Leu Lys Asn Ala
1115 1120 1125

Val Glu Ile Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe Met
1130 1135 1140

Ala Phe Lys Ser Phe Ala Asp Leu Gln His Lys Pro Leu Leu Val
1145 1150 1155

Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile Phe Gly
1160 1165 1170

Ser His Thr Gly Phe His Val Ile Asp Val Asp Ser Gly Asn Ser
1175 1180 1185

Tyr Asp Ile Tyr Ile Pro Ser His Ile Gln Gly Asn Ile Thr Pro

1190

1195

1200

His Ala Ile Val Ile Leu Pro Lys Thr Asp Gly Met Glu Met Leu
1205 1210 1215

Val Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr Gly Arg
1220 1225 1230

Ile Thr Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro Thr Ser
1235 1240 1245

Val Ala Tyr Ile His Ser Asn Gln Ile Met Gly Trp Gly Glu Lys
1250 1255 1260

Ala Ile Glu Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val
1265 1270 1275

Phe Met His Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg
1280 1285 1290

Asn Asp Lys Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser
1295 1300 1305

Gln Val Phe Phe Met Thr Leu Asn Arg Asn Ser Met Met Asn Trp
1310 1315 1320

Glx

<210> 14
<211> 1298
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 14

Met Ala Ser Asp Ser Pro Ala Arg Ser Leu Asp Glu Ile Asp Leu Ser
1 5 10 15

Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys

260

265

270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Thr Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu
305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Ala Glu His Glu Gln Glu Tyr Ile Arg
435 440 445

Arg Gln Leu Glu Glu Gln Arg Gln Leu Glu Ile Leu Gln Gln Gln
450 455 460

Leu Leu His Glu Gln Ala Leu Leu Leu Glu Tyr Lys Arg Lys Gln Leu
465 470 475 480

Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu Lys Gln Glu
485 490 495

Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu Gln Arg Pro
500 505 510

Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met Ser Pro Ser
515 520 525

Glu Lys Pro Ala Trp Ala Lys Glu Ile Pro His Leu Val Ala Val Lys
530 535 540

Ser Gln Gly Pro Ala Leu Thr Ala Ser Gln Ser Val His Glu Gln Pro
545 550 555 560

Thr Lys Gly Leu Ser Gly Phe Gln Glu Ala Leu Asn Val Thr Ser His
565 570 575

Arg Val Glu Met Pro Arg Gln Asn Ser Asp Pro Thr Ser Glu Asn Pro
580 585 590

Pro Leu Pro Thr Arg Ile Glu Lys Phe Asp Arg Ser Ser Trp Leu Arg
595 600 605

Gln Glu Glu Asp Ile Pro Pro Lys Val Pro Gln Arg Thr Thr Ser Ile
610 615 620

Ser Pro Ala Leu Ala Arg Lys Asn Ser Pro Gly Asn Gly Ser Ala Leu
625 630 635 640

Gly Pro Arg Leu Gly Ser Gln Pro Ile Arg Ala Ser Asn Pro Asp Leu
645 650 655

Arg Arg Thr Glu Pro Ile Leu Glu Ser Pro Leu Gln Arg Thr Ser Ser
660 665 670

Gly Ser Ser Ser Ser Ser Thr Pro Ser Ser Gln Pro Ser Ser Gln
675 680 685

Gly Gly Ser Gln Pro Gly Ser Gln Ala Gly Ser Ser Glu Arg Thr Arg
690 695 700

Val Arg Ala Asn Ser Lys Ser Glu Gly Ser Pro Val Leu Pro His Glu
705 710 715 720

Pro Ala Lys Val Lys Pro Glu Glu Ser Arg Asp Ile Thr Arg Pro Ser
725 730 735

Arg Pro Ala Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg Glu Leu Arg
740 745 750

Ile Glu Glu Thr Asn Arg Pro Met Lys Lys Val Thr Asp Tyr Ser Ser
755 760 765

Ser Ser Glu Glu Ser Glu Ser Ser Glu Glu Glu Glu Glu Asp Gly Glu
770 775 780

Ser Glu Thr His Asp Gly Thr Val Ala Val Ser Asp Ile Pro Arg Leu
785 790 795 800

Ile Pro Thr Gly Ala Pro Gly Ser Asn Glu Gln Tyr Asn Val Gly Met
805 810 815

Val Gly Thr His Gly Leu Glu Thr Ser His Ala Asp Ser Phe Ser Gly
820 825 830

Ser Ile Ser Arg Glu Gly Thr Leu Met Ile Arg Glu Thr Ser Gly Glu
835 840 845

Lys Lys Arg Ser Gly His Ser Asp Ser Asn Gly Phe Ala Gly His Ile
850 855 860

Asn Leu Pro Asp Leu Val Gln Gln Ser His Ser Pro Ala Gly Thr Pro
865 870 875 880

Thr Glu Gly Leu Gly Arg Val Ser Thr His Ser Gln Glu Met Asp Ser
885 890 895

Gly Thr Glu Tyr Gly Met Gly Ser Ser Thr Lys Ala Ser Phe Thr Pro
900 905 910

Phe Val Asp Pro Arg Val Tyr Gln Thr Ser Pro Thr Asp Glu Asp Glu
915 920 925

Glu Asp Glu Glu Ser Ser Ala Ala Ala Leu Phe Thr Ser Glu Leu Leu
930 935 940

Arg Gln Glu Gln Ala Lys Leu Asn Glu Ala Arg Lys Ile Ser Val Val
945 950 955 960

Asn Val Asn Pro Thr Asn Ile Arg Pro His Ser Asp Thr Pro Glu Ile
965 970 975

Arg Lys Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu Cys Ala Ala Leu
980 985 990

Trp Gly Val Asn Leu Leu Val Gly Thr Glu Asn Gly Leu Met Leu Leu
995 1000 1005

Asp Arg Ser Gly Gln Gly Lys Val Tyr Asn Leu Ile Asn Arg Arg
1010 1015 1020

Arg Phe Gln Gln Met Asp Val Leu Glu Gly Leu Asn Val Leu Val
1025 1030 1035

Thr Ile Ser Gly Lys Lys Asn Lys Leu Arg Val Tyr Tyr Leu Ser
1040 1045 1050

Trp Leu Arg Asn Arg Ile Leu His Asn Asp Pro Glu Val Glu Lys
1055 1060 1065

Lys Gln Gly Trp Ile Thr Val Gly Asp Leu Glu Gly Cys Ile His
1070 1075 1080

Tyr Lys Val Val Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala
1085 1090 1095

Leu Lys Asn Ala Val Glu Ile Tyr Ala Trp Ala Pro Lys Pro Tyr
1100 1105 1110

His Lys Phe Met Ala Phe Lys Ser Phe Ala Asp Leu Gln His Lys
1115 1120 1125

Pro Leu Leu Val Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys
1130 1135 1140

Val Ile Phe Gly Ser His Thr Gly Phe His Val Ile Asp Val Asp
1145 1150 1155

Ser Gly Asn Ser Tyr Asp Ile Tyr Ile Pro Ser His Ile Gln Gly

1160

1165

1170

Asn Ile Thr Pro His Ala Ile Val Ile Leu Pro Lys Thr Asp Gly
1175 1180 1185

Met Glu Met Leu Val Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn
1190 1195 1200

Thr Tyr Gly Arg Ile Thr Lys Asp Val Val Leu Gln Trp Gly Glu
1205 1210 1215

Met Pro Thr Ser Val Ala Tyr Ile His Ser Asn Gln Ile Met Gly
1220 1225 1230

Trp Gly Glu Lys Ala Ile Glu Ile Arg Ser Val Glu Thr Gly His
1235 1240 1245

Leu Asp Gly Val Phe Met His Lys Arg Ala Gln Arg Leu Lys Phe
1250 1255 1260

Leu Cys Glu Arg Asn Asp Lys Val Phe Phe Ala Ser Val Arg Ser
1265 1270 1275

Gly Gly Ser Ser Gln Val Phe Phe Met Thr Leu Asn Arg Asn Ser
1280 1285 1290

Met Met Asn Trp Glx
1295

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<211> 1269
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<213> Artificial Sequence

<220>
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<400> 15

Met Ala Ser Asp Ser Pro Ala Arg Ser Leu Asp Glu Ile Asp Leu Ser
1 5 10 15

Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys

260

265

270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Thr Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu
305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Arg Ala Glu His Glu Gln Glu Tyr Lys Arg
435 440 445

Lys Gln Leu Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu
450 455 460

Lys Gln Glu Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu
465 470 475 480

Gln Arg Pro Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met
485 490 495

Ser Pro Ser Glu Lys Pro Ala Trp Ala Lys Glu Ile Pro His Leu Val
500 505 510

Ala Val Lys Ser Gln Gly Pro Ala Leu Thr Ala Ser Gln Ser Val His
515 520 525

Glu Gln Pro Thr Lys Gly Leu Ser Gly Phe Gln Glu Ala Leu Asn Val
530 535 540

Thr Ser His Arg Val Glu Met Pro Arg Gln Asn Ser Asp Pro Thr Ser
545 550 555 560

Glu Asn Pro Pro Leu Pro Thr Arg Ile Glu Lys Phe Asp Arg Ser Ser
565 570 575

Trp Leu Arg Gln Glu Glu Asp Ile Pro Pro Lys Val Pro Gln Arg Thr
580 585 590

Thr Ser Ile Ser Pro Ala Leu Ala Arg Lys Asn Ser Pro Gly Asn Gly
595 600 605

Ser Ala Leu Gly Pro Arg Leu Gly Ser Gln Pro Ile Arg Ala Ser Asn
610 615 620

Pro Asp Leu Arg Arg Thr Glu Pro Ile Leu Glu Ser Pro Leu Gln Arg
625 630 635 640

Thr Ser Ser Gly Ser Ser Ser Ser Ser Ser Thr Pro Ser Ser Gln Pro
645 650 655

Ser Ser Gln Gly Gly Ser Gln Pro Gly Ser Gln Ala Gly Ser Ser Glu
660 665 670

Arg Thr Arg Val Arg Ala Asn Ser Lys Ser Glu Gly Ser Pro Val Leu
675 680 685

Pro His Glu Pro Ala Lys Val Lys Pro Glu Glu Ser Arg Asp Ile Thr
690 695 700

Arg Pro Ser Arg Pro Ala Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg
705 710 715 720

Glu Leu Arg Ile Glu Glu Thr Asn Arg Pro Met Lys Lys Val Thr Asp
725 730 735

Tyr Ser Ser Ser Ser Glu Glu Ser Ser Glu Glu Glu Glu Glu
740 745 750

Asp Gly Glu Ser Glu Thr His Asp Gly Thr Val Ala Val Ser Asp Ile
755 760 765

Pro Arg Leu Ile Pro Thr Gly Ala Pro Gly Ser Asn Glu Gln Tyr Asn
770 775 780

Val Gly Met Val Gly Thr His Gly Leu Glu Thr Ser His Ala Asp Ser
785 790 795 800

Phe Ser Gly Ser Ile Ser Arg Glu Gly Thr Leu Met Ile Arg Glu Thr
805 810 815

Ser Gly Glu Lys Lys Arg Ser Gly His Ser Asp Ser Asn Gly Phe Ala
820 825 830

Gly His Ile Asn Leu Pro Asp Leu Val Gln Gln Ser His Ser Pro Ala
835 840 845

Gly Thr Pro Thr Glu Gly Leu Gly Arg Val Ser Thr His Ser Gln Glu
850 855 860

Met Asp Ser Gly Thr Glu Tyr Gly Met Gly Ser Ser Thr Lys Ala Ser
865 870 875 880

Phe Thr Pro Phe Val Asp Pro Arg Val Tyr Gln Thr Ser Pro Thr Asp
885 890 895

Glu Asp Glu Glu Asp Glu Glu Ser Ser Ala Ala Ala Leu Phe Thr Ser
900 905 910

Glu Leu Leu Arg Gln Glu Gln Ala Lys Leu Asn Glu Ala Arg Lys Ile
915 920 925

Ser Val Val Asn Val Asn Pro Thr Asn Ile Arg Pro His Ser Asp Thr
930 935 940

Pro Glu Ile Arg Lys Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu Cys
945 950 955 960

Ala Ala Leu Trp Gly Val Asn Leu Leu Val Gly Thr Glu Asn Gly Leu
965 970 975

Met Leu Leu Asp Arg Ser Gly Gln Gly Lys Val Tyr Asn Leu Ile Asn
980 985 990

Arg Arg Arg Phe Gln Gln Met Asp Val Leu Glu Gly Leu Asn Val Leu
995 1000 1005

Val Thr Ile Ser Gly Lys Lys Asn Lys Leu Arg Val Tyr Tyr Leu
1010 1015 1020

Ser Trp Leu Arg Asn Arg Ile Leu His Asn Asp Pro Glu Val Glu
1025 1030 1035

Lys Lys Gln Gly Trp Ile Thr Val Gly Asp Leu Glu Gly Cys Ile
1040 1045 1050

His Tyr Lys Val Val Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile
1055 1060 1065

Ala Leu Lys Asn Ala Val Glu Ile Tyr Ala Trp Ala Pro Lys Pro
1070 1075 1080

Tyr His Lys Phe Met Ala Phe Lys Ser Phe Ala Asp Leu Gln His
1085 1090 1095

Lys Pro Leu Leu Val Asp Leu Thr Val Glu Glu Gly Gln Arg Leu
1100 1105 1110

Lys Val Ile Phe Gly Ser His Thr Gly Phe His Val Ile Asp Val
1115 1120 1125

Asp Ser Gly Asn Ser Tyr Asp Ile Tyr Ile Pro Ser His Ile Gln
1130 1135 1140

Gly Asn Ile Thr Pro His Ala Ile Val Ile Leu Pro Lys Thr Asp
1145 1150 1155

Gly Met Glu Met Leu Val Cys Tyr Glu Asp Glu Gly Val Tyr Val

1160

1165

1170

Asn Thr Tyr Gly Arg Ile Thr Lys Asp Val Val Leu Gln Trp Gly
1175 1180 1185

Glu Met Pro Thr Ser Val Ala Tyr Ile His Ser Asn Gln Ile Met
1190 1195 1200

Gly Trp Gly Glu Lys Ala Ile Glu Ile Arg Ser Val Glu Thr Gly
1205 1210 1215

His Leu Asp Gly Val Phe Met His Lys Arg Ala Gln Arg Leu Lys
1220 1225 1230

Phe Leu Cys Glu Arg Asn Asp Lys Val Phe Phe Ala Ser Val Arg
1235 1240 1245

Ser Gly Gly Ser Ser Gln Val Phe Phe Met Thr Leu Asn Arg Asn
1250 1255 1260

Ser Met Met Asn Trp Glx
1265

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<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 16

Arg Thr Val Leu Gly Val Ile Gly Asp
1 5

<210> 17
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 17

Arg Thr Ala Leu Gly Ile Asp Gly Asn
1 5

<210> 18
<211> 27
<212> PRT
<213> Rattus sp.

<400> 18

Tyr Met Thr Val Ser Ile Ile Asp Arg Phe Met Gln Asp Ser Cys Val
1 5 10 15

Pro Lys Lys Met Leu Gln Leu Val Gly Val Thr
20 25

<210> 19
<211> 28
<212> PRT
<213> Mus sp.

<400> 19

Lys Phe Arg Leu Leu Gln Glu Thr Met Tyr Met Thr Val Ser Ile Ile
1 5 10 15

Asp Arg Phe Met Gln Asn Ser Cys Val Pro Lys Lys
20 25

<210> 20
<211> 27
<212> PRT
<213> Mus sp.

<400> 20

Arg Ala Ile Leu Ile Asp Trp Leu Ile Gln Val Gln Met Lys Phe Arg
1 5 10 15

Leu Leu Gln Glu Thr Met Tyr Met Thr Val Ser
20 25

<210> 21
<211> 27
<212> PRT
<213> Mus sp.

<400> 21

Asp Arg Phe Leu Gln Ala Gln Leu Val Cys Arg Lys Lys Leu Gln Val
1 5 10 15

Val Gly Ile Thr Ala Leu Leu Leu Ala Ser Lys
20 25

<210> 22
<211> 18
<212> PRT
<213> Mus sp.

<400> 22

Met Ser Val Leu Arg Gly Lys Leu Gln Leu Val Gly Thr Ala Ala Met
1 5 10 15

Leu Leu

<210> 23
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 23
tgcgcttata ttccagaagt agagct 26

<210> 24
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 24
ctgtctctgc tcctcctcta 20

<210> 25
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 25

Ala Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
1 5 10

<210> 26
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 26
agcttgcagc catcagggtt atggatgtca c

31

<210> 27
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 27
gtgacatcca taaccttgat ggctgcaagc t

31

<210> 28
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 28

Asp Tyr Lys Asp Asp Asp Asp Lys Gly
1 5

<210> 29
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 29

Ala Ser Met Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn
1 5 10

<210> 30
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 30

Pro Cys Pro Pro Ser Arg
1 5

<210> 31
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 31

Pro Arg Val Pro Val Arg
1 5

<210> 32
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 32

Pro Asn Leu Pro Pro Arg
1 5

<210> 33
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 33

Pro Lys Val Pro Gln Arg
1 5

<210> 34
<211> 1360
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic

<400> 34

Met Ala Ser Asp Ser Pro Ala Arg Ser Leu Asp Glu Ile Asp Leu Ser
1 5 10 15

Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys
260 265 270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Thr Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu
305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Glu Asn Asp Ser Gly
325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Arg Glu Asn Glu Glu His Lys
370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu Lys Glu Leu Arg
405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
420 425 430

Arg Glu Glu Glu Arg Arg Ala Glu His Glu Gln Glu Tyr Ile Arg

435

440

445

Arg Gln Leu Glu Glu Glu Gln Arg Gln Leu Glu Ile Leu Gln Gln Gln
450 455 460

Leu Leu His Glu Gln Ala Leu Leu Leu Glu Tyr Lys Arg Lys Gln Leu
465 470 475 480

Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu Lys Gln Glu
485 490 495

Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu Gln Arg Pro
500 505 510

Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met Ser Pro Ser
515 520 525

Glu Lys Pro Ala Trp Ala Lys Glu Val Glu Glu Arg Ser Arg Leu Asn
530 535 540

Arg Gln Ser Ser Pro Ala Met Pro His Lys Val Ala Asn Arg Ile Ser
545 550 555 560

Asp Pro Asn Leu Pro Pro Arg Ser Glu Ser Phe Ser Ile Ser Gly Val
565 570 575

Gln Pro Ala Arg Thr Pro Pro Met Leu Arg Pro Val Asp Pro Gln Ile
580 585 590

Pro His Leu Val Ala Val Lys Ser Gln Gly Pro Ala Leu Thr Ala Ser
595 600 605

Gln Ser Val His Glu Gln Pro Thr Lys Gly Leu Ser Gly Phe Gln Glu
610 615 620

Ala Leu Asn Val Thr Ser His Arg Val Glu Met Pro Arg Gln Asn Ser
625 630 635 640

Asp Pro Thr Ser Glu Asn Pro Pro Leu Pro Thr Arg Ile Glu Lys Phe
645 650 655

Asp Arg Ser Ser Trp Leu Arg Gln Glu Glu Asp Ile Pro Pro Lys Val
660 665 670

Pro Gln Arg Thr Thr Ser Ile Ser Pro Ala Leu Ala Arg Lys Asn Ser
675 680 685

Pro Gly Asn Gly Ser Ala Leu Gly Pro Arg Leu Gly Ser Gln Pro Ile
690 695 700

Arg Ala Ser Asn Pro Asp Leu Arg Arg Thr Glu Pro Ile Leu Glu Ser
705 710 715 720

Pro Leu Gln Arg Thr Ser Ser Gly Ser Ser Ser Ser Ser Ser Thr Pro
725 730 735

Ser Ser Gln Pro Ser Ser Gln Gly Gly Ser Gln Pro Gly Ser Gln Ala
740 745 750

Gly Ser Ser Glu Arg Thr Arg Val Arg Ala Asn Ser Lys Ser Glu Gly
755 760 765

Ser Pro Val Leu Pro His Glu Pro Ala Lys Val Lys Pro Glu Glu Ser
770 775 780

Arg Asp Ile Thr Arg Pro Ser Arg Pro Ala Ser Tyr Lys Lys Ala Ile
785 790 795 800

Asp Glu Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg Glu Leu Arg Ile
805 810 815

Glu Glu Thr Asn Arg Pro Met Lys Lys Val Thr Asp Tyr Ser Ser Ser
820 825 830

Ser Glu Glu Ser Glu Ser Ser Glu Glu Glu Glu Asp Gly Glu Ser
835 840 845

Glu Thr His Asp Gly Thr Val Ala Val Ser Asp Ile Pro Arg Leu Ile
850 855 860

Pro Thr Gly Ala Pro Gly Ser Asn Glu Gln Tyr Asn Val Gly Met Val
865 870 875 880

Gly Thr His Gly Leu Glu Thr Ser His Ala Asp Ser Phe Ser Gly Ser
885 890 895

Ile Ser Arg Glu Gly Thr Leu Met Ile Arg Glu Thr Ser Gly Glu Lys
900 905 910

Lys Arg Ser Gly His Ser Asp Ser Asn Gly Phe Ala Gly His Ile Asn
915 920 925

Leu Pro Asp Leu Val Gln Gln Ser His Ser Pro Ala Gly Thr Pro Thr
930 935 940

Glu Gly Leu Gly Arg Val Ser Thr His Ser Gln Glu Met Asp Ser Gly
945 950 955 960

Thr Glu Tyr Gly Met Gly Ser Ser Thr Lys Ala Ser Phe Thr Pro Phe
965 970 975

Val Asp Pro Arg Val Tyr Gln Thr Ser Pro Thr Asp Glu Asp Glu Glu
980 985 990

Asp Glu Glu Ser Ser Ala Ala Leu Phe Thr Ser Glu Leu Leu Arg
995 1000 1005

Gln Glu Gln Ala Lys Leu Asn Glu Ala Arg Lys Ile Ser Val Val
1010 1015 1020

Asn Val Asn Pro Thr Asn Ile Arg Pro His Ser Asp Thr Pro Glu
1025 1030 1035

Ile Arg Lys Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu Cys Ala
1040 1045 1050

Ala Leu Trp Gly Val Asn Leu Leu Val Gly Thr Glu Asn Gly Leu
1055 1060 1065

Met Leu Leu Asp Arg Ser Gly Gln Gly Lys Val Tyr Asn Leu Ile
1070 1075 1080

Asn Arg Arg Arg Phe Gln Gln Met Asp Val Leu Glu Gly Leu Asn
1085 1090 1095

Val Leu Val Thr Ile Ser Gly Lys Lys Asn Lys Leu Arg Val Tyr
1100 1105 1110

Tyr Leu Ser Trp Leu Arg Asn Arg Ile Leu His Asn Asp Pro Glu
1115 1120 1125

Val Glu Lys Lys Gln Gly Trp Ile Thr Val Gly Asp Leu Glu Gly
1130 1135 1140

Cys Ile His Tyr Lys Val Val Lys Tyr Glu Arg Ile Lys Phe Leu
1145 1150 1155

Val Ile Ala Leu Lys Asn Ala Val Glu Ile Tyr Ala Trp Ala Pro
1160 1165 1170

Lys Pro Tyr His Lys Phe Met Ala Phe Lys Ser Phe Ala Asp Leu
1175 1180 1185

Gln His Lys Pro Leu Leu Val Asp Leu Thr Val Glu Glu Gly Gln
1190 1195 1200

Arg Leu Lys Val Ile Phe Gly Ser His Thr Gly Phe His Val Ile
1205 1210 1215

Asp Val Asp Ser Gly Asn Ser Tyr Asp Ile Tyr Ile Pro Ser His
1220 1225 1230

Ile Gln Gly Asn Ile Thr Pro His Ala Ile Val Ile Leu Pro Lys
1235 1240 1245

Thr Asp Gly Met Glu Met Leu Val Cys Tyr Glu Asp Glu Gly Val
1250 1255 1260

Tyr Val Asn Thr Tyr Gly Arg Ile Thr Lys Asp Val Val Leu Gln
1265 1270 1275

Trp Gly Glu Met Pro Thr Ser Val Ala Tyr Ile His Ser Asn Gln
1280 1285 1290

Ile Met Gly Trp Gly Glu Lys Ala Ile Glu Ile Arg Ser Val Glu
1295 1300 1305

Thr Gly His Leu Asp Gly Val Phe Met His Lys Arg Ala Gln Arg
1310 1315 1320

Leu Lys Phe Leu Cys Glu Arg Asn Asp Lys Val Phe Phe Ala Ser

1325

1330

1335

Val Arg Ser Gly Gly Ser Ser Gln Val Phe Phe Met Thr Leu Asn
1340 1345 1350

Arg Asn Ser Met Met Asn Trp
1355 1360

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<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 35

Met Ala Asn Asp Ser Pro Ala Lys Ser Leu Val Glu Ile Asp Leu Ser
1 5 10 15

Ser Leu Arg Asp Pro Ala Gly Ile Phe Glu Val Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Val
35 40 45

Thr Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Ile Thr Leu Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg Asn
65 70 75 80

Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Ser Pro Pro Gly His
85 90 95

Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser Ile
100 105 110

Thr Asp Leu Ile Val Asn Thr Lys Gly Asn Thr Leu Lys Glu Asp Trp
115 120 125

Ile Ala Tyr Ile Ser Arg Glu Ile Leu Arg Gly Leu Ala His Leu His
130 135 140

Ile His His Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu Leu
145 150 155 160

Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala Gln
165 170 175

Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro Tyr
180 185 190

Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala Thr
195 200 205

Tyr Asp Tyr Arg Ser Asp Leu Trp Ser Cys Gly Ile Thr Ala Ile Glu
210 215 220

Met Ala Glu Gly Cys Pro Pro Leu Cys Asp Met His Pro Met Arg Ala
225 230 235 240

Leu Phe Leu Ile Pro Arg Asn Pro Pro Arg Leu Lys Ser Lys Lys
245 250 255

Trp Ser Lys Lys Phe Phe Ser Phe Ile Glu Gly Cys Leu Val Lys Asn
260 265 270

Tyr Met Gln Arg Pro Ser Thr Glu Gln Leu Leu Lys His Pro Phe Ile
275 280 285

Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp His
290 295 300

Ile Asp Arg Thr Arg Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu Tyr
305 310 315 320

Glu Tyr Ser Gly Ser Glu Glu Glu Glu Glu Val Pro Glu Glu Gln
325 330 335

Glu Gly Glu Pro Ser Ser Ile Val Asn Val Pro Gly Glu Ser Thr Leu
340 345 350

Arg Arg Asp Phe Leu Arg Leu Gln Gln Glu Asn Lys Glu Arg Ser Glu
355 360 365

Ala Leu Arg Arg Gln Gln Leu Ser Gln Glu Gln Leu Arg Glu Gln Glu

370

375

380

Glu Tyr Lys Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Cys
385 390 395 400

Gln Lys Glu Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu Arg
405 410 415

Glu Ala Arg Arg Gln Gln Glu Arg Glu Gln Arg Arg Arg Glu Gln Glu
420 425 430

Glu Lys Arg Arg Leu Glu Glu Leu Glu Arg Arg Arg Lys Glu Glu Glu
435 440 445

Glu Arg Arg Arg Ala Glu Glu Glu Arg Arg Arg Val Glu Arg Glu Gln
450 455 460

Glu Tyr Ile Arg Arg Gln Leu Glu Glu Glu Gln Arg His Leu Glu Ile
465 470 475 480

Leu Gln Gln Gln Leu Leu Gln Glu Gln Ala Met Leu Leu His Asp His
485 490 495

Arg His Pro His Ala Gln Gln Pro Pro Pro Pro Gln Gln Asp
500 505 510

Arg Ser Lys Pro Ser Ser His Ala Pro Glu Pro Lys Pro His Tyr Asp
515 520 525

Pro Ala Asp Asn Ala Arg Glu Val Gln Trp Ser His Leu Ala Ser Leu
530 535 540

Lys Asn Asn Val Ser Pro Val Ser Arg Ser His Ser Phe Ser Asp Val
545 550 555 560

Pro Ser Lys Phe Ala Ala His His Leu Arg Ser Gln Asp Pro Cys
565 570 575

Pro Pro Ser Arg Ser Glu Gly Leu Ser Gln Ser Ser Asp Ser Lys Ser
580 585 590

Glu Val Pro Glu Pro Thr Arg Gln Lys Ala Trp Ser Arg Ser Asp Ser
595 600 605

Asp Glu Val Pro Pro Arg Val Pro Val Arg Thr Thr Ser Arg Ser Pro
610 615 620

Val Leu Ser Arg Arg Asp Ser Pro Leu Gln Gly Gly Gly Asn Ser Gln
625 630 635 640

Ala Gly Gln Arg Asn Ser Thr Ser Ser Ile Glu Pro Pro Leu Leu Trp
645 650 655

Glu Arg Val Glu Lys Leu Val Pro Arg Pro Gly Ser Gly Ser Ser Ser
660 665 670

Gly Ser Ser Asn Ser Gly Ser Gln Pro Gly Ser His Pro Cys Ser Gln
675 680 685

Ser Gly Ser Gly Glu Arg Phe Arg Val Arg Ser Ser Ser Lys Ser Glu
690 695 700

Gly Ser Pro Ser Pro Arg Gln Glu Ser Ala Ala Lys Lys Pro Asp Asp
705 710 715 720

Lys Lys Glu Val Phe Arg Ser Leu Lys Pro Ala Gly Glu Val Asp Leu
725 730 735

Thr Ala Leu Ala Lys Glu Leu Arg Ala Val Glu Asp Val Arg Pro Pro
740 745 750

His Lys Val Thr Asp Tyr Ser Ser Ser Ser Glu Glu Ser Gly Thr Thr
755 760 765

Asp Glu Phe Glu Glu Pro Val His Gln Glu Gly Ala Asp Asp Ser Thr
770 775 780

Ser Gly Pro Glu Asp Thr Arg Ala Ala Ser Pro Asn Leu Ser Asn Gly
785 790 795 800

Glu Thr Glu Ser Val Lys Thr Met Ile Val His Asp Asp Val Glu Ser
805 810 815

Glu Pro Ala Met Thr Pro Ser Lys Glu Gly Thr Leu Ile Val Arg Gln
820 825 830

Thr Gln Ser Ala Ser Ser Thr Leu Gln Lys His Lys Ser Ser Ser Ser
835 840 845

Phe Thr Pro Asp Phe Thr Asp Pro Arg Leu Leu Leu Gln Ile Ser Pro
850 855 860

Ser Gly Thr Thr Val Thr Ser Val Val Gly Phe Ser Cys Asp Gly Leu
865 870 875 880

Arg Pro Glu Ala Ile Arg Gln Asp Pro Thr Arg Lys Gly Ser Val Val
885 890 895

Asn Val Asn Pro Thr Asn Thr Arg Pro Gln Ser Asp Thr Pro Glu Ile
900 905 910

Arg Lys Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu Cys Ala Ala Leu
915 920 925

Trp Gly Val Asn Leu Leu Val Gly Thr Glu Ser Gly Leu Met Leu Leu
930 935 940

Asp Arg Ser Gly Gln Gly Lys Val Tyr Pro Leu Ile Ser Arg Arg Arg
945 950 955 960

Phe Gln Gln Met Asp Val Leu Glu Gly Leu Asn Val Leu Val Thr Ile
965 970 975

Ser Gly Lys Lys Asp Lys Leu Arg Val Tyr Tyr Leu Ser Trp Leu Arg
980 985 990

Asn Arg Ile Leu His Asn Asp Pro Glu Val Glu Lys Lys Gln Gly Trp
995 1000 1005

Thr Thr Val Gly Asp Leu Glu Gly Cys Val His Tyr Lys Val Val
1010 1015 1020

Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala Leu Lys Ser Ser
1025 1030 1035

Val Glu Val Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe Met
1040 1045 1050

Ala Phe Lys Ser Phe Gly Glu Leu Leu His Lys Pro Leu Leu Val
1055 1060 1065

Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile Tyr Gly
1070 1075 1080

Ser Cys Ala Gly Phe His Ala Val Asp Val Asp Ser Gly Ser Val
1085 1090 1095

Tyr Asp Ile Tyr Leu Pro Thr His Ile Gln Cys Ser Ile Lys Pro
1100 1105 1110

His Ala Ile Tyr Ile Leu Pro Asn Thr Asp Gly Met Glu Leu Leu
1115 1120 1125

Val Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr Gly Arg
1130 1135 1140

Ile Thr Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro Thr Ser
1145 1150 1155

Val Ala Tyr Ile His Ser Asn Gln Thr Met Gly Trp Gly Glu Lys
1160 1165 1170

Ala Ile Glu Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val
1175 1180 1185

Phe Met His Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Gly Arg
1190 1195 1200

Asn Asp Lys Val Phe Phe Ser Ser Val Arg Ser Gly Gly Ser Ser
1205 1210 1215

Gln Val Tyr Phe Met Thr Leu Gly Arg Thr Ser Leu Leu Ser Trp
1220 1225 1230

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<220>
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<400> 36

Pro Pro Leu Pro Thr Arg
1 5